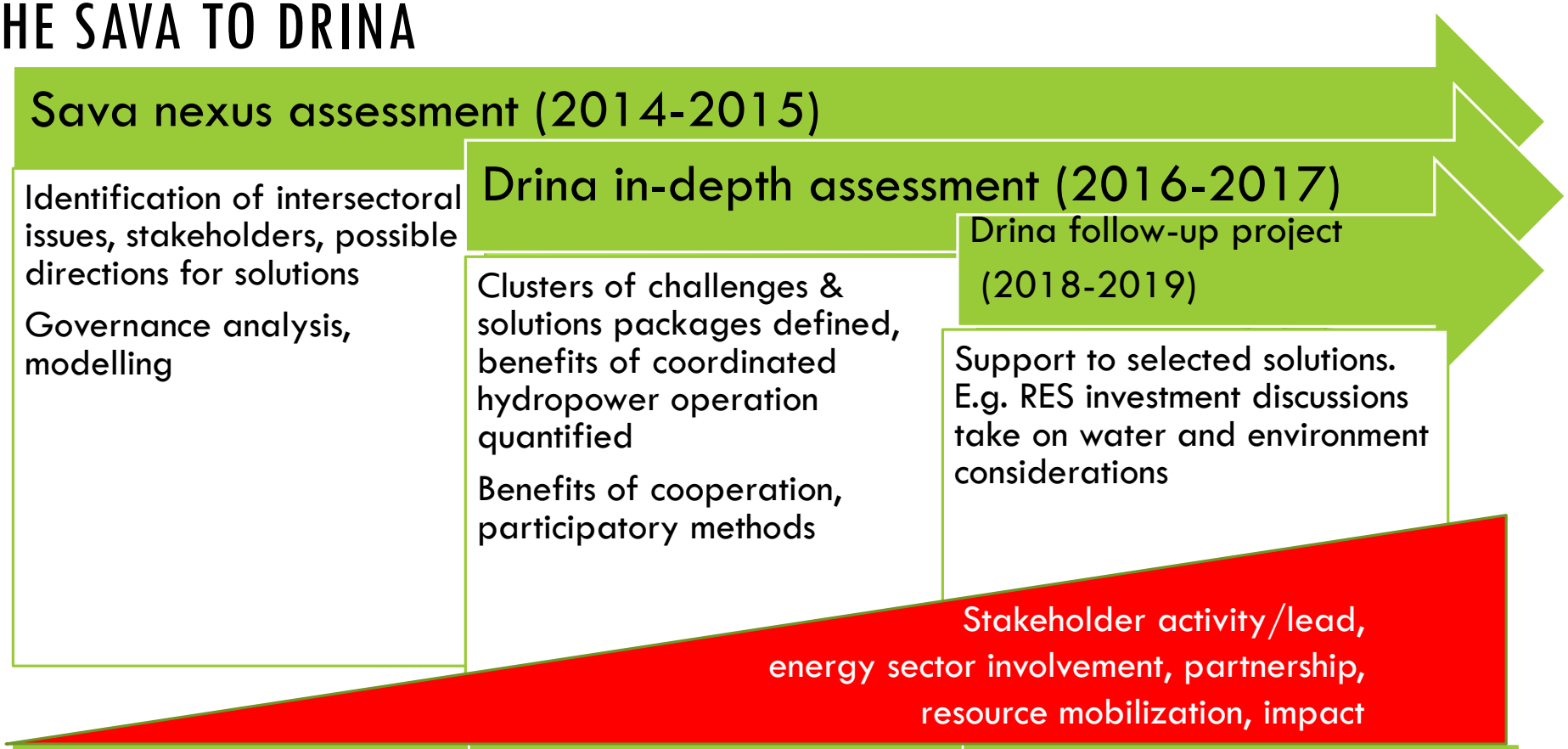
UNECE

Work on flow regulation and environmental flows in the Drina Nexus Follow-up Project: Background & objectives

NEXUS INSIGHTS UNDER THE WATER CONVENTION FROM THE SAVA TO DRINA



KTH, ISRBC, JRC	Italy, ISRBC, GERE, KTH, GEF, World Bank	Italy, GERE, GWP, ADA
Network forming, sectors meeting & exchanging	Debate with utilities about the benefits; Publication with GERE: nexus and RES; Forums on Energy	Regional level nexus initiative provides for sharing experience; transfer of lessons Drina -> Drin

DRINA: CLUSTERS OF SOLUTIONS

DRINA FOLLOW-UP PROJECT: SUPPORT TO IMPLEMENTATION ACTIVITIES (ON-GOING, FUNDED BY ITALY)

UNECE

1. Review of **monitoring and information exchange** in transboundary cooperation (bilateral in particular), identification of needs. Analysis of monitoring procedures and examples of rules of procedure: Mapping of guidance, Development of recommendations. Under preparation

2. **Sedimentation**: Review existing documentation and available data. Identification of the sources of sediment areas with a deficit and a surplus of sediment, erosion map, proposal for the zones of surveillance &for priority action. J. Černi Institute implementing

3. **Flow regulation**: Legally-focused desk study identifying examples of formal cooperation/coordination arrangements, reviewing good practices, laws and regulations. Review of the flow related needs in the Drina. Development of recommendations. Expert Group meeting 11-12 June 2019, Zagreb

4. **Investment talks on renewable energy**: national multi-stakeholder workshops held to trouble-shoot investment. Recommendations issued. Bosnia and Herzegovina – 4-5 December 2018, Serbia - 21-22 March 2019

5. **Basin workshop** (tentatively in October or early November 2019)

COMPONENT 3 (FLOW REGULATION): TASKS

Forming a small group of experts

Outline or ToR of the review to be circulated for comments to the Focal points.

Identification and engagement of experts.

Drafting of the review document, including options relevant for the Drina Basin outlined.

Meeting of the Drina country experts to discuss the options and recommendations

COMPOSITION AND TASKS OF THE EXPERT GROUP

The Expert Group consists of experts with knowledge about different aspects of flow – hydrological, environmental and water use-related – identified by the focal points to the Water Convention from the Drina riparian countries, Bosnia and Herzegovina, Montenegro and Serbia.

The Expert Group provides advice and input for the study by supporting the analysis, shaping the scope and developing the recommendations.

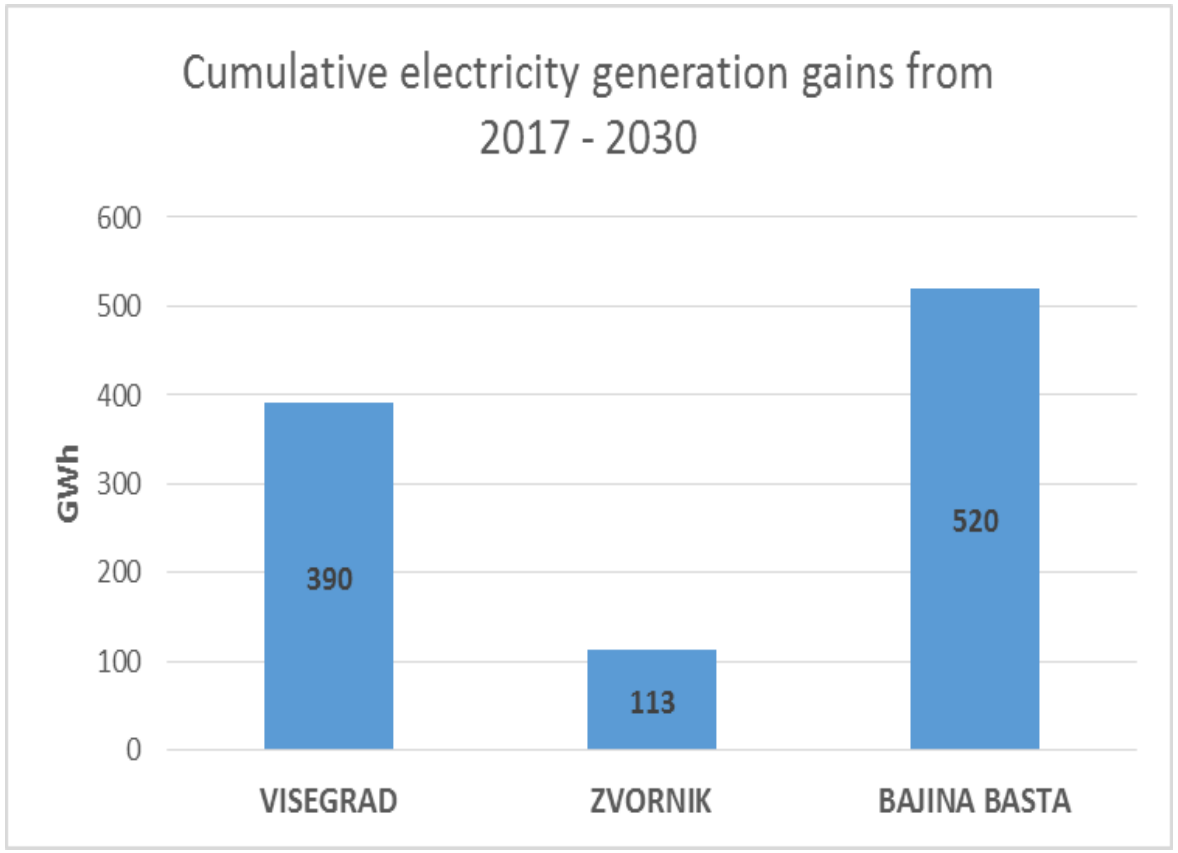
RELEVANCE OF THE RESULTS FROM THE EARLIER AND PLANNED "NEXUS" MODELLING FOR WATER-ENERGY DIALOGUE

Drina Nexus I: co-optimization of hydropower in the Drina River Basin, interconnections and trade, energy efficiency policy

Drina Nexus II: linking hydropower development in the basin to the RE energy and climate commitments of riparians - **Important to understand how this outlook plays out to anticipate the possible impacts on water resources (including other uses) and to explore alternatives**

Expected impact of Drina Nexus II: elements to answer the question *"How to increase the share of RE in the Drina riparians in a way that optimizes the resources available (including financial), minimizes the negative impact on the environment (including transboundary), and maximises the multi-sectoral benefits of projects?"*

in particular through a better understanding of hydropower dynamics in the basin (costs&benefits, hydro/non-hydro competitiveness)



MODELLING RESULTS FROM NEXUS PHASE I

The results demonstrated substantive benefits from coordinated operation of hydropower plants in the main Drina cascade compared to optimizing the generation from the plants on a single unit basis

A modelling exercise carried out as part of this assessment shows that cooperative operation of hydropower dams could deliver more than 600 GWh of electricity over the 2017-2030 period. Setting aside 30% of the dam capacity for flood control would have a cost, through a change in the energy mix, of about 4% of the operational cost of the whole electricity system in the three countries. Pressure on hydropower generation could be reduced by increasing energy efficiency – by as much as 4.1 TWh in the combined Drina Basin in the 2017-2030 period – and would also deliver significant reductions in greenhouse gas emissions (from 38 Mt in 2017 to about 28 Mt in 2030) representing about 21% of the combined emissions of the three countries in 2015.

PROPOSED SCOPE OF THE STUDY: COMPONENTS

1. **A review of international practice with environmental flows** and good practices (in particular in the European Union and South-East Europe) and an analysis of the **environmental flow regulation and its implementation in the three Drina countries;**

2. **An analysis of relevant international examples of agreeing at the transboundary level** about specific aspects of flow regulation and reconciling different uses (hydropower, flood and low flow management, meeting ecosystem needs etc.);

3. **Recommendations and options for formalizing the flow regulation** in the Drina Basin.

WORK AT THE EXPERT MEETING (THE SESSIONS)

1) Introduction to the project
2) The regional context
3) Environmental flows and their application
4) Flow needs in the Drina River Basin
5) International experience and guidance
6) Initial discussion about recommendations: What would improve the current flow regime? How to co-optimize?
7) The report to be produced and completing the analysis
8) Conclusions and next steps

OBJECTIVES FOR THE MEETING

Discuss the scope and brainstorm about the contents with a broad and active participation

Review the approaches to environmental flow and how the Drina riparians approach it, identify potential for harmonization

With the knowledge of the participants and building on results of other projects, identify the main flow related needs and issues along the Drina

Take stock of the current situation and anticipate where future developments make improvement & reduction of trade-offs most needed

Reflect on ways to address them and identify some concrete directions for cooperative actions

Learn about international practices and formalization options, considering their relevance for the Drin

LINKS TO OTHER INITIATIVES AND SYNERGIES

- **Modelling of the Drina Nexus study** showed that there are benefits from coordinated operation of HPPs
- The study under the **Expert Group on flow regulation and environmental flows** (legal/governance options focus) complements the Drina GEF-SCCF project (technical focus; the hydrological and hydraulic modelling) and builds on earlier technical projects.
- Contributes to the development of a **handbook on water allocation** at the transboundary level under the Water Convention
- The ADA funded regional W. Balkans nexus project with GWP Mediterranean and KTH provides for **quantitative analysis of scenarios (the Drina nexus II) on renewable energy & role of hydropower** (2020-21)
- Possible follow up in the framework of the ISRBC?